

**U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON ENERGY**

HEARING CHARTER

*Oversight and Management of Department of Energy National Laboratories and
Science Activities*

Thursday, July 11, 2013
9:30 a.m. – 11:30 a.m.
2318 Rayburn House Office Building

PURPOSE

The Subcommittee on Energy will hold a hearing entitled *Oversight and Management of Department of Energy National Laboratories and Science Activities* on Thursday, July 11, at 9:30 a.m. in Room 2318 of the Rayburn House Office Building. The purpose of the hearing is to examine the Department of Energy's (DOE) oversight and management of science and technology activities, particularly as they relate to enhancing the efficiency and effectiveness of the National Laboratory System. The hearing will consider ideas and recommendations regarding how best to enhance DOE support of science and innovation through reforms in areas related to management, performance, technology transfer, and laboratory authorities and regulations.

WITNESS LIST

- **Mr. Matthew Stepp**, Senior Policy Analyst, Information Technology and Innovation Foundation
- **Mr. Jack Spencer**, Senior Research Fellow, The Heritage Foundation
- **Dr. Thom Mason**, Director, Oak Ridge National Laboratory
- **Dr. Dan Arvizu**, Director, National Renewable Energy Laboratory

BACKGROUND

*History*¹

The origins of DOE's national laboratories and the Office of Science trace back to World War II and the Manhattan Project, as the pursuit of the world's first nuclear weapon spawned a

¹ Any information in the history section is largely drawn from or paraphrased from the DOE Office of Science page on history. Accessible at: <http://science.energy.gov/about/history/>

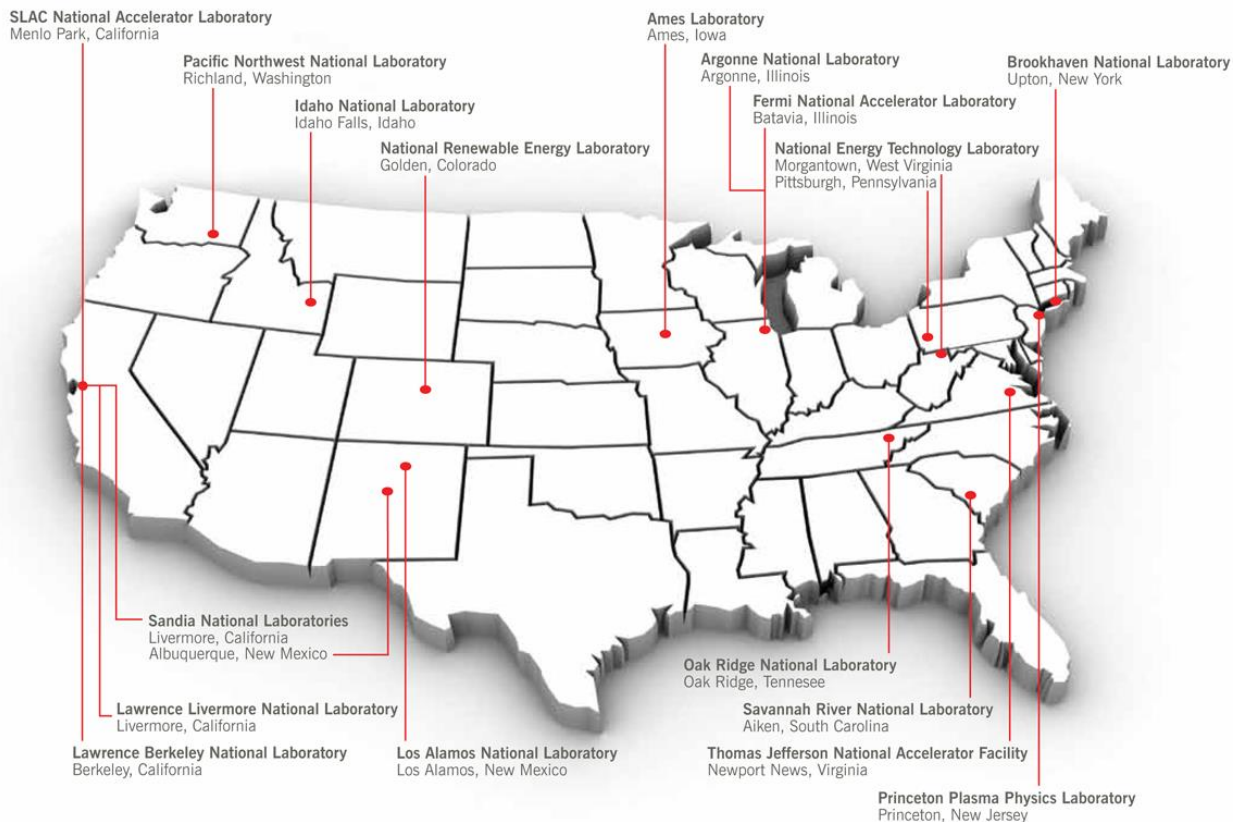
vast research and development apparatus. The national labs grew out of the large multi-purpose facilities that housed this early scientific work. Post-World War II, the broader national importance of these scientific and technical capabilities was clear, though debate remained regarding whether or not they should remain predominantly military-focused. In 1946, the Atomic Energy Act was passed, and responsibility for nuclear research and development was transferred from the War Department to a new independent civilian agency, the Atomic Energy Commission (AEC).

The AEC created a network of national laboratories throughout the 1940s and 1950s, and these labs constructed and operated particle accelerators, colliders, centrifuges, and other tools to advance nuclear science. During the following decades, the number of these facilities increased, and their scope and capabilities became increasingly diversified to include physics, fusion, and advanced computing, among other issues. These facilities were largely utilized in support of Cold War and national security objectives. In 1971, President Nixon expanded the AEC research charter to include non-nuclear forms of energy and related technologies, and in the following years, the AEC transitioned into the newly-created Energy Research and Development Administration (ERDA). In 1977, President Carter signed the Department of Energy Organization Act, which consolidated most of government's energy-related research—including ERDA—under the newly-created Office of Energy Research, later renamed the Office of Science, to house the DOE's basic research portfolio.

Today, the DOE lab system is comprised of 17 national laboratories that provide the country with strategic and foundational scientific and technological capabilities (figure 1). The combined direct DOE funding for the laboratories is over \$11 billion, representing nearly 40 percent of the Department's entire budget (appendix I). Of the agency's 17 facilities, the following 10 are managed by the Office of Science (SC) and primarily support basic research and major scientific user facilities: Ames, Argonne, Brookhaven, Fermi, Lawrence Berkeley, Oak Ridge, Pacific Northwest, Princeton Plasma Physics, SLAC National Accelerator Laboratory, and Thomas Jefferson National Accelerator Facility.² The remaining seven labs specialize in nuclear energy (Idaho, Savannah River), Fossil Energy (National Energy Technology Laboratory), Energy Efficiency and Renewable Energy (National Renewable Energy Laboratory), and national security and weapons management (Sandia, Lawrence Livermore, and Los Alamos).

² Department of Energy, Office of Science, Laboratories. Accessible at: <http://science.energy.gov/laboratories/>

Figure 1. The DOE Laboratory System



Current Issues

In recent years, questions have arisen as to whether or not the labs, and DOE's management of them, can and are successfully moving past their Cold War roots and adapting to address the challenges of the 21st century. Concerns with the management structure and performance at the national labs were reflected in the DOE's FY 2012 Appropriations Bill. To better understand the potential management and performance challenges facing the labs, the bill directed the National Academy of Public Administration (NAPA) to conduct an independent review of DOE management and oversight. Specifically, the report was to respond to congressional questions concerning whether or not DOE's oversight model allows the national labs sufficient flexibility to optimize performance, whether DOE's lab oversight is adequate, and whether DOE's lab evaluation processes measure the appropriate metrics and hold labs accountable for performance.

The report, entitled *Positioning DOE's Labs for the Future: A Review of DOE's Management and Oversight of the National Laboratories*, was released in January of this year.³

³ A Report by a Panel of the National Academy of Public Administration for the U.S. Congress and the Department of Energy, *Positioning DOE's Labs for the Future: A Review of DOE Management and Oversight of the National*

The report is largely supportive of DOE efforts to move to a performance-based oversight model and an outcome-based evaluation approach, but identified challenges that must be addressed in order to strengthen this transition. With regard to lab management, the report found that “New management approaches are needed to address changing conditions and drive the lab complex to optimize its future contribution to the Nation’s energy and security goals.”⁴ Notably, the report found that if DOE is to successfully transition to a Contactor Assurance Systems (CAS)-based oversight model and a more outcome-based evaluation approach, DOE staff in headquarters and at site offices must also change the way they conduct business. This includes transitioning to a systems approach to managing the labs which will require DOE leadership and staff involvement in order to change the attitude and culture surrounding lab management and oversight.

The authors of the NAPA report acknowledged that its release came at a time of “leadership transition at DOE” and expressed their hope that the Department would take the opportunity to develop new strategies regarding the future of the national labs.⁵ Accordingly, on May 16, 2013 Dr. Ernest Moniz was unanimously confirmed by the Senate as the 13th Secretary of Energy. During his confirmation hearing before the Senate Committee on Energy and Natural Resources, Dr. Moniz expressed his support of and appreciation for the basic research and fundamental science conducted at the national labs, but stated that he planned to work with the laboratory directors in a “somewhat different” way than his predecessor and that he hoped to improve the way that the labs engage with the Department.⁶

In testimony before the Committee on Science, Space, and Technology on June 18th, Secretary Moniz announced he was in the process of finalizing a number of management and performance reforms to enhance organizational efficiencies and programmatic oversight and accountability, stating that “management and performance of the Department is one of my top priorities as Secretary.”⁷ (See Appendix II.)

On June 19th, the Information Technology and Innovation Foundation (ITIF), Heritage Foundation, and Center for American Progress (CAP) released a joint report entitled *Turning the Page: Re-imagining the National Labs in the 21st Century Innovation Economy*.⁸ The report examines the DOE-National Lab model with an eye toward effectiveness in meeting and addressing the challenges of the 21st century, and suggests various recommendations designed to move the model past its Cold War roots. In particular, the report emphasizes that in order for the

Laboratories, January 2013. Accessible at: <http://www.napawash.org/wp-content/uploads/2013/01/DOE-FINAL-REPORT-1-2-13.pdf>

⁴ Ibid.

⁵ Ibid.

⁶ Hearing before the Committee on Energy and Natural Resources, United States Senate, *Moniz Nomination*, April 9, 2013. P. 41-42. Accessible at: <http://www.gpo.gov/fdsys/pkg/CHRG-113shrg80930/pdf/CHRG-113shrg80930.pdf>

⁷ <http://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-113-SY-WState-EMoniz-20130617.pdf>

⁸ *Turning the Page: Reimagining the National Labs in the 21st Century Innovation Economy*, June 2013. Accessible at: <http://www2.itif.org/2013-turning-page-national-lab-innovation-economy.pdf>

labs to still advance 21st century innovation and technology, they must embrace changes to the lab management model. The report made the following comprehensive recommendations to enhance lab oversight and performance:

Transforming Lab Management From DOE Micromanagement to Contractor Accountability

- Creation of a high-level task force to develop DOE-actionable reforms on lab effectiveness and accountability.
- Transition to a performance-based contractor-accountability model.
- Expand the Performance Evaluation Management Plan process to include a new accountability model.

Unifying Lab Stewardship, Funding, and Management Stovepipes with Innovation Goals

- Merge the existing Under Secretaries of Science and Energy into a new Office of Science and Technology.
- Combine the research functions of the Office of Science and those of the Under Secretary for Energy under a new Office of Science and Technology.
- Remove top-down overhead accounting rules.

Moving Technology to Market with Better Incentives and More Flexibility

- Expand Agreements for Commercializing Technology (ACT) agreements.
- Allow labs to use flexible pricing for user facilities and special capabilities.
- Allow labs autonomy in nonfederal funding-partnership agreements.
- Add weight to technology transfer in the expanded PEMP process.
- Execute consistent guidelines on conflicts of interest.

This hearing will examine the recommendations of the ITIF/Heritage/CAP report as well as related recommendations pertaining to improving the function of DOE science and technology activities, particularly as they relate to the national laboratories.

Appendix I: DOE National Laboratory Spending

National Laboratory	FY 2012	FY 2013 Annualized CR	FY 2014 Request
Ames Laboratory	\$30,304	\$50,528	\$50,544
Argonne National Laboratory	\$610,684	\$595,865	\$556,441
Brookhaven National Laboratory	\$625,266	\$627,748	\$564,790
Fermi National Accelerator Laboratory	\$408,417	\$410,929	\$406,667
Idaho National Laboratory	\$1,066,968	\$1,029,671	\$954,911
Lawrence Berkeley National Laboratory	\$614,173	\$608,565	\$566,763
Lawrence Livermore National Laboratory	\$1,314,330	\$1,188,579	\$1,137,792
Los Alamos National Laboratory	\$2,005,067	\$1,826,850	\$1,962,384
National Energy Technology Lab	\$705,740	\$708,619	\$615,372
National Renewable Energy Laboratory	\$266,623	\$234,282	\$292,091
Oak Ridge National Laboratory	\$1,155,756	\$1,115,492	\$1,092,665
Pacific Northwest National Laboratory	\$534,940	\$508,995	\$478,302
Princeton Plasma Physics Laboratory	\$79,007	\$79,486	\$65,642
Sandia National Laboratories	\$1,649,985	\$1,807,095	\$1,814,638
Savannah River National Laboratory	\$4,991	\$18,049	\$18,096
SLAC National Accelerator Laboratory	\$333,156	\$334,693	\$411,261
Thomas Jefferson National Accelerator Facility	\$160,342	\$161,323	\$163,482
TOTAL	\$11,565,749	\$11,306,769	\$11,151,841

Appendix II: Relevant Excerpt from Secretary Moniz's June 18th, 2013 Testimony

Management and Performance

The Department of Energy has a broad range of responsibilities that stretch across cutting edge science and technology programs, national security priorities, and complex environmental cleanup projects. Responsibility for taxpayers' money demands that we manage our resources in the most efficient manner possible. Improving the management and performance of the Department is one of my top priorities as Secretary.

I have been carefully reviewing the organization and management practices within the Department and am working with my staff to develop options to reorganize. I see this as a sustained effort for continuous improvement and I look forward to working with members of this committee and others in Congress and the Administration to elevate the focus on management and performance at DOE.

As part of this process, I have identified several areas where I plan to make improvements:

- To better support the President's all-of-the-above energy strategy, we need to improve the Department's systems approach to energy policy analysis. DOE has analysis capabilities housed in each major program area, but to strengthen our integrated policy assessment capability to provide the Secretary, the President, and the Congress with comprehensive assessments of key energy policy issues, I am considering plans to consolidate and strengthen policy and systems analysis, to make better use of existing resources.
- A key factor in successful technology innovation programs is the ability to closely integrate and move quickly from basic science, to applied research, to technology demonstration. The Department has made important strides to foster communication between its science and energy programs, but we must do more organizationally to drive this process. I am considering ways to more closely integrate the management of science and energy programs to improve the dexterity and effectiveness of the innovation process.
- We need to build consistency and accountability across the entire Department. The various mission support functions of DOE require greater day-to-day oversight, coordination and integration. I am considering means of strengthening the lines of authority and management of these functions.
- Finally, I am examining the organization of the Office of the Secretary. I look forward to building councils of advisors that will provide enterprise-wide advice and analysis on issues ranging from cyber security to the management of the National Labs. I also plan to engage the Directors of the National Laboratories regarding the Department's mission and to appoint new members to and work closely with the Secretary of Energy Advisory Board. Bringing together these measures to improve internal coordination and reaching out for expert outside advice will provide me with a broader base of information and analysis to make informed decisions.